



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/787,188	02/27/2004	Yoshiki Takata	4699-0103P	4585
2292	7590	10/09/2007	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH			CHOI, JACOB Y	
PO BOX 747			ART UNIT	PAPER NUMBER
FALLS CHURCH, VA 22040-0747			2885	
NOTIFICATION DATE		DELIVERY MODE		
10/09/2007		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)
	10/787,188	TAKATA, YOSHIKI
	Examiner	Art Unit
	Jacob Y. Choi	2885

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 16 July 2007.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-14, 16-18 and 20-41 is/are pending in the application.
 4a) Of the above claim(s) 26-41 is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-14, 16-18 and 20-25 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 20 March 2006 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date June 14, 2007.

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) Notice of Informal Patent Application (PTO-152)
 6) Other: _____.

DETAILED ACTION

Response to Amendment

1. Examiner acknowledges that the applicant has amended claims 1, 8, 20, and 25, canceled claims 15 and 19, and newly added claims 25-41. Currently, claims **1-14, 16-18, and 20-41** are pending in the application.

Election/Restrictions

2. Newly submitted claims **26-41** directed to an invention that is independent or distinct from the invention originally claimed for the following reasons of a different field of search (e.g., class/subclass) where it is necessary to search for one of the inventions in a manner that is not likely to result in finding art pertinent to the other invention(s).

Since applicant has received an action on the merits for the originally presented invention (e.g., "... *second member being mounted on said first member*" not "... *a second member disposed on the radiation surface side in close adhesion with the first member*" of Figures 9-10), this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims **26-41** are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Specification

3. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Note: claims in a pending application should be given their broadest reasonable interpretation (e.g., "closed space"). *In re Pearson*, 181 USPQ 641 (CCPA 1974).

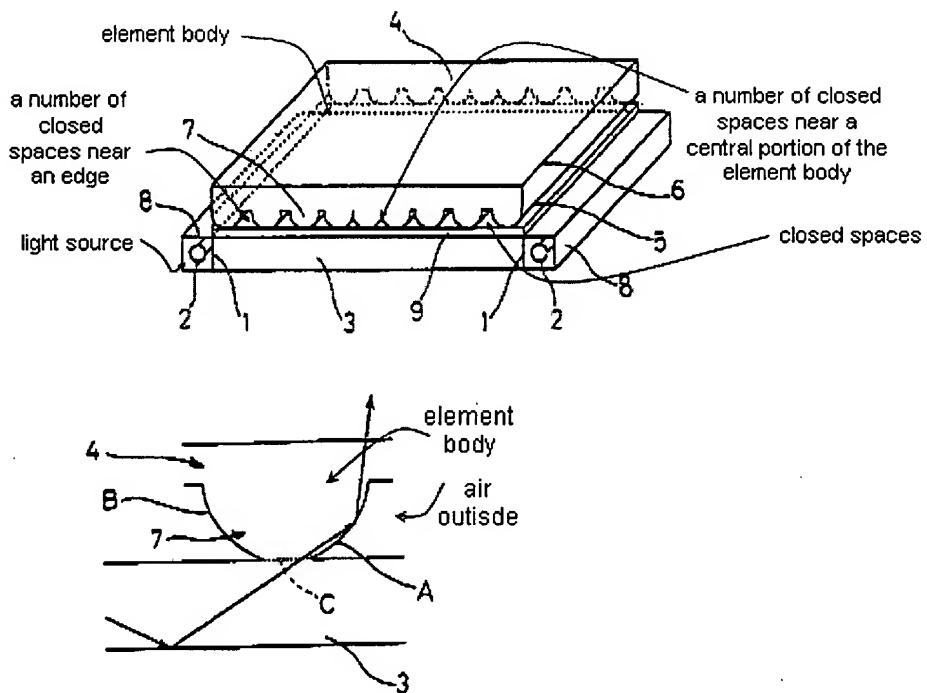
The term "closed" is defined as having little or no space between elements or parts; tight and compact

In order to be given patentable weight, a functional recitation must be supported by recitation in the claim of sufficient structure to warrant the presence of the functional language. *In re Fuller*, 1929 C.D. 172; 388 O.G. 279.

5. Claims 1-14, 16-18, and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Onishi et al. (USPN 6,425,675).

Regarding claims 1 and 8, Onishi et al. discloses an element body (e.g., 4) has a *generally* plate shape constituted (e.g., Figure 13) with a material having a larger electric permittivity than air outside the element body and, in the inside of the element body, a plurality of *closed spaces* (e.g., see Figure below) are disposed whose electric permittivity is smaller (e.g., air outside) than that of the material constituting the element body and whose surfaces opposite to a radiation surface are *generally* flat, wherein a number of closed spaces near an edge of the element body near the radiation source is

lesser than in a central portion of the element body (e.g., column 11, lines 5-35; "... *the arrangement in which some of the projections 7 adjacent each of the light source are distributed loosely while some of the projections 7 at a location generally intermediate between the light source are distributed densely is effective to provide a pattern of uniform distribution of luminance*").



Onishi et al. failed to specify the number of closed spaces near an edge being greater than a central portion of the element body.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize differently shaped projections (e.g., Figures 2A-4D; column 7, lines 25-55; "... *the present invention have conducted extensive studies of various light output plates each having the projections 7 of different shape to determine the right shape for the projections 7 in terms of the maximized luminance exhibited by the planar light source device*"") that may require different arrangements

(e.g., column 11, lines 5-35; “*... the arrangement in which some of the projections 7 adjacent each of the light source are distributed loosely while some of the projections 7 at a location generally intermediate between the light source are distributed densely is effective to provide a pattern of uniform distribution of luminance*” through the element body to maximize the luminance exhibited by the planar light source device, as alternatively suggested by Onishi et al. The modification of rearranging more closed spaces near the edge is desirable providing an alternative ways to maximize the luminance of the over all LCD device, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

Regarding claims 2 & 9, Onishi et al. discloses the claimed invention, explained above. In addition, Onishi et al. discloses a plurality of *closed spaces* is disposed whose surfaces opposite to the radiation surface are generally parallel to the radiation surface (e.g., Figure 9).

Regarding claims 3 & 10, Onishi et al. discloses the claimed invention, explained above. In addition, Onishi et al. discloses a plurality of *closed spaces* is adjacently disposed whose surfaces opposite to the radiation surface are generally parallel to each other (e.g., Figure 9).

Regarding claims 4 & 11, Onishi et al. discloses the claimed invention, explained above. In addition, Onishi et al. discloses a first member having a radiation source (e.g., 2) disposed on a side thereof and a second member disposed on the radiation

surface side are constituted to be in close adhesion (e.g., column 5, lines 15-30), and the closed spaces are formed between the first member and the second member.

Regarding claims 5 & 12, Onishi et al. discloses the claimed invention, explained above. In addition, Onishi et al. discloses at least one member of the first member (e.g., 3) and the second member (e.g., 7) has recesses formed therein, and the recesses (e.g., A) are disposed to constitute the closed spaces by joining the first member and the second member.

Regarding claims 6 & 13, Onishi et al. discloses the claimed invention, explained above. In addition, Onishi et al. discloses a total reflection-restraining layer such as a scatter layer is disposed in the radiation surface (e.g., claims 28-30).

Regarding claims 7 & 14, Onishi et al. discloses the claimed invention, explained above. In addition, Onishi et al. discloses the closed spaces are filled with solid layers having a smaller electric permittivity than the material constituting the element body.

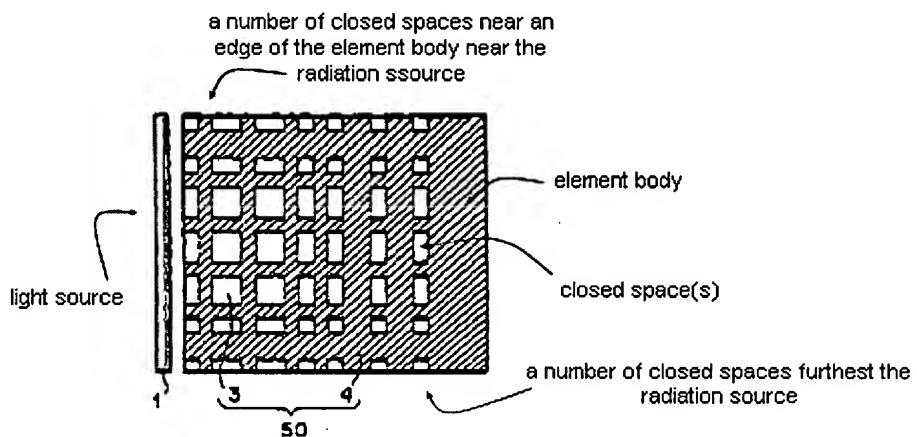
Regarding claims 16-18 and 20-22, Onishi et al. discloses the structural limitations of the applicant's claimed invention, explained in above paragraphs.

Onishi et al. failed to specify the method of using the particular structure.

It would have been obvious to one of ordinary skill in the art at the time of the invention to recite the use of structural limitations of Onishi et al. Also, It has been held that to be entitled to weight in method claims, the recited structure limitations therein must affect the method in a manipulative sense, and not to amount to the mere claiming of a use of a particular structure. *Ex parte Pfeiffer*, 1962 C.D. 408 (1961).

6. Claims 1-14, 16-18, and 20-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita et al. (USPN 7,004,610).

Regarding claims 1 and 8, Yamashita et al. discloses an element body (e.g., 50) has a generally plate shape (e.g., Figure 3) constituted with a material having a larger electric permittivity than air outside the element body (e.g., column 10, lines 40-50; "... a composite layer 50 constituted of a low refractive index region (first refractive index region) 3 of a refractive index n_1 and a high refractive index region of a refractive index n_2 (second refractive index region) 4") and, in the inside of the element body, a plurality of closed spaces (e.g., Figures 1-20) are disposed whose electric permittivity is smaller than that of the material constituting the element body and whose surfaces opposite to a radiation surface are generally flat (e.g., 6, 7), wherein a number of closed spaces (e.g., 3, 4, 50) near an edge of the element body near the radiation source is greater than in a furthest portion of the element body (e.g., Figure 3).



Yamashita et al. fails to specifically show the two elongated light sources positioned opposite one another, where the number of closed spaces near an edge of the element body is greater than in center portion of the element body.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to implement teachings of Yamashita et al. (e.g., Figure 3, columns 10-12, lines 60-45; "... *low refractive index region 3 and the high refractive index region 4 are not limited to one having a substantially rectangular cross-section shape ... substantially semicircular structure, a structure where a cross-sectional shape of the high refractive index region 4 has a curved line partially or entirely ... or the like ... an array pattern of the low refractive index region 3 and the high refractive index region 4 in the composite layer 50, various types such as one any one of the aforementioned patterns combined with the other thereof can be used ... means for changing the occupation density of the high refractive index region 4, there are available a method simultaneously using plural pattern similar to those shown in FIGS. 2 to 4 and FIGS. 18 to 20 or other complex pattern changes, a method of setting similar pattern shapes and changing an area of the high refractive index region 4 from place to place, a method using completely identical pattern shapes and changing an array pitch (P) thereof, etc.*"") to variously locate different sizes and shapes of low and high refractive regions throughout the element body to further enhance the luminance of the over all LCD device, especially for using dual elongated light sources (e.g., Figure 5). The modification of rearranging the low and high refractive regions would have been obvious, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

Regarding claims 2 & 9, Yamashita et al. discloses the claimed invention, explained above. In addition, Yamashita et al. discusses a plurality of *closed spaces* are

disposed whose surfaces opposite to the radiation surface are *generally* parallel to the radiation surface (e.g., Figures 2-4).

Regarding claims 3 & 10, Yamashita et al. discloses the claimed invention, explained above. In addition, Yamashita et al. discloses a plurality of *closed spaces* are adjacently disposed whose surfaces opposite to the radiation surface are generally parallel to each other (e.g., Figures 2-3).

Regarding claims 4 & 11, Yamashita et al. discloses the claimed invention, explained above. In addition, Yamashita et al. discloses a first member having a radiation source (e.g., 1) disposed on a side thereof and a second member disposed on the radiation surface side are constituted to be in close adhesion (e.g., columns 4-8, lines 25-25), and the closed spaces are formed between the first member and the second member.

Regarding claims 5 & 12, Yamashita et al. discloses the claimed invention, explained above. In addition, Yamashita et al. discloses at least one member of the first member (e.g., 6) and the second member (e.g., 50) has recesses formed therein, and the recesses (e.g., 3, 4,) are disposed to constitute the closed spaces by joining the first member (e.g., 6) and the second member (e.g., 50).

Regarding claims 6 & 13, Yamashita et al. discloses the claimed invention, explained above. In addition, Yamashita et al. discloses a total reflection-restraining layer such as a scatter layer is disposed in the radiation surface (e.g., 8, 10).

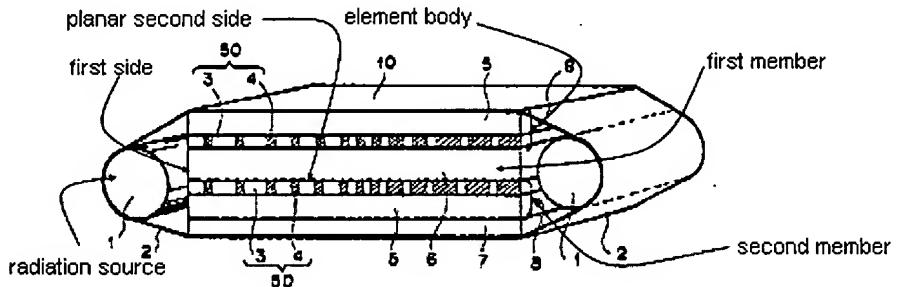
Regarding claims 7 & 14, Yamashita et al. discloses the claimed invention, explained above. In addition, Yamashita et al. discloses the closed spaces are filled

with solid layers (e.g., 3, 4) having a smaller electric permittivity than the material constituting the element body (e.g., 50).

Regarding claims 23 & 24, Yamashita et al. discloses the claimed invention, explained above. In addition, Yamashita et al. discloses a first member (e.g., 6) having a radiation source (e.g., 1) disposed on a side thereof and a second member (e.g., 50) disposed on a radiation surface of the first member rare constituted to be in closed adhesion (e.g., columns 4-8, lines 25-25), the second member including a planer surface having a plurality of openings therein (e.g., 3), wherein face contact between the second member planar surface and the first member closes the spaces in the second member (e.g., Figures 1-20).

Regarding claims 25, Yamashita et al. discloses an element body (e.g., 50) having a *generally* plate shape constituted with a material having a larger electric permittivity than air outside the element body (e.g., column 10, lines 40-50; "... a *composite layer 50 constituted of a low refractive index region (first refractive index region) 3 of a refractive index n1 and a high refractive index region of a refractive index n2 (second refractive index region) 4*" and, in the inside of the element body, a plurality of closed spaces are disposed (e.g., 3, 4), the electric permittivity of the closed spaces being smaller than the electrical permittivity of the material constituting the element body (e.g., 50), and a number of closed spaces (e.g., 3, 4, 50; at the top) near an edge of the element body near the radiation source is greater than in a furthest portion of the element body (e.g., Figure 3), wherein the element body (e.g., 50; Figure 5) comprises

a first member (e.g., 6) having a first side facing a radiation source (e.g., 1) and a planar second side and a second member having (e.g., 8, 3, 4, 50; at the bottom) a planar side having a plurality of openings (e.g., 3, 4, 50) having *generally* flat bottoms (e.g., Figure 5), the second member (e.g., 50) being mounted on the first member (e.g., 6) with portions of the second member (e.g., 8, 3, 4, 50; at the bottom) planar side in face contact with the first member (e.g., 6) planar second side thereby closing (e.g., 4) the plurality of openings (e.g., Figure 5).



Yamashita et al. fails to specifically show the two elongated light sources positioned opposite one another, where the number of closed spaces near an edge of the element body is greater than in center portion of the element body.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to implement teachings of Yamashita et al. (e.g., Figure 3, columns 10-12, lines 60-45; "... *low refractive index region 3 and the high refractive index region 4 are not limited to one having a substantially rectangular cross-section shape ... substantially semicircular structure, a structure where a cross-sectional shape of the high refractive index region 4 has a curved line partially or entirely ... or the like ... an array pattern of the low refractive index region 3 and the high refractive index*

*region 4 in the composite layer 50, various types such as one any one of the aforementioned patterns combined with the other thereof can be used ... means for changing the occupation density of the high refractive index region 4, there are available a method simultaneously using plural pattern similar to those shown in FIGS. 2 to 4 and FIGS. 18 to 20 or other complex pattern changes, a method of setting similar pattern shapes and changing an area of the high refractive index region 4 from place to place, a method using completely identical pattern shapes and changing an array pitch (P) thereof, etc.") to variously locate different sizes and shapes of low and high refractive regions throughout the element body to further enhance the luminance of the over all LCD device, especially for using dual elongated light sources (e.g., Figure 5). The modification of rearranging the low and high refractive regions would been obvious, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.*

Regarding claims 16-18 and 20-22, Yamashita et al. discloses the structural limitations of the applicant's claimed invention, explained in above paragraphs.

Yamashita et al. failed to disclose method of use of a particular structure.

It would have been obvious to one of ordinary skill in the art at the time of the invention to recite the use of structural limitations of Yamashita et al. Also, It has been held that to be entitled to weight in method claims, the recited structure limitations therein must affect the method in a manipulative sense, and not to amount to the mere claiming of a use of a particular structure. *Ex parte Pfeiffer*, 1962 C.D. 408 (1961).

Response to Arguments

7. Applicant's arguments with respect to claims **1-14, 16-18, and 20-25** have been considered but are moot in view of the new ground(s) of rejection. Also, Applicant's arguments filed July 16, 2007 have been fully considered but they are not persuasive.

Again, In response to applicant's response that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "*an element body having a plurality of closed spaced inside the element body*") panel decision from pre-appeal brief of February 20, 2007 confirms that examiner's interpretation of the phrase "*closed space*" was reasonable and claims 1-14, 16-18 and 20-25 are properly rejected under 35 USC § 102 and 103. To clarify, the features are clearly shown in the drawing Figures Onishi et al. and Yamashita et al., where things clearly shown in reference patent drawing qualify as prior art features, even though unexplained by the specification. *In re Mraz*, 173 USPQ 25 (CCPA 1972). Also, claims in a pending application were given their broadest reasonable interpretation (e.g., "*closed space*"). *In re Pearson*, 181 USPQ 641 (CCPA 1974). The term "*closed*" is defined as having little or no space between elements or parts; tight and compact. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacob Y. Choi whose telephone number is (571) 272-2367. The examiner can normally be reached on Monday-Friday (10:00-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jong-Suk (James) Lee can be reached on (571) 272-7044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jacob Y Choi
Examiner
Art Unit 2885

JC

